V.A.5.N.k.20. PHALARIS ARUNDINACEA SEASONALLY FLOODED HERBACEOUS ALLIANCE

Reed Canary Grass Seasonally Flooded Herbaceous Alliance

PHALARIS ARUNDINACEA WESTERN HERBACEOUS VEGETATION

Reed Canary Grass Western Herbaceous Vegetation

ELEMENT CONCEPT

GLOBAL SUMMARY: This association is reported from throughout Washington, Colorado, Nebraska, Montana, Idaho, and into northeastern Utah, and is likely more widespread in the western United States. Its distribution as a natural type is complicated because this native species is widely cultivated as a forage crop and has escaped and established in wetlands and riparian areas, displacing the local flora. Elevations range from near sea level to 1700 m. Stands are found along riparian areas, pond and lake margins, wet meadows, and intermittent drainages. Soils are commonly fine-textured and may be flooded for brief to extended periods. The vegetation is characterized by a dense, tall herbaceous layer (often >80% canopy cover and 1.5-2 m tall) that is dominated by *Phalaris arundinacea*, which tends to occur in mono-cultures. Associated species may include *Equisetum arvense, Muhlenbergia asperifolia, Mentha arvensis, Schoenoplectus acutus (= Scirpus acutus)*, and many other species in trace amounts where disturbed. Introduced species such as *Lepidium latifolium, Cirsium arvense, Sonchus oleraceus, Euphorbia esula*, and *Phleum pratense* are common in some stands.

ENVIRONMENTAL DESCRIPTION

USFWS Wetland System: PALUSTRINE

Florissant Fossil Beds NM Environment: This herbaceous vegetation is an exotic mesic grassland restricted to drainages with flowing water and/or high groundwater tables. *Phalaris arundinacea* was apparently introduced historically to revegetate a disturbed water pipeline corridor and subsequently invaded adjacent riparian and wetland sites. Reed canarygrass may also have been introduced historically to provide streambank protection and/or to enhance forage production for livestock on these once, private ranch lands.

Global Environment: This association is reported from throughout Washington, Colorado, Nebraska, Montana, Idaho, and into northeastern Utah, and is likely more widespread in the western United States. Elevations range from near sea level to 1700 m. Stands are found along riparian areas, pond and lake margins, wet meadows, and intermittent drainages. Sites are flat to rolling. Soils are commonly fine-textured, but can be coarser in texture. Subsoil is often mottled and gleyed (Crawford 2001). Sites are generally flooded during the growing season, but flooding can vary from brief to extended periods.

VEGETATION DESCRIPTION

Florissant Fossil Beds NM Vegetation: This mesic grassland is characterized by almost pure stands of *Phalaris arundinacea* from 1.0-1.5 m in height and in excess of 75% foliar cover. The litter layer is extremely dense, to 10 cm thick, and is riddled by small mammal tunnels. There are generally only a few native species associated with this type, occupying the drier margins of the stand, including *Juncus balticus* and *Cirsium scariosum (= Cirsium tioganum)*. Other exotic forbs such as *Cirsium arvense* and graminoids such as *Poa pratensis, Hordeum brachyantherum,* and *Bromus inermis* were observed along the stand margins and in adjacent, drier habitats. Only a few large stands or patches of this association were present in Boulder and Grape creeks, and small patches occurred along drainages and on moist sites within the floodplain of these and other creeks.

These stands are apparently stable once established, showing no signs of invasion by surrounding native and/or other exotic species. Should the type be restored to non-invasive species, it would likely support stands of *Juncus balticus, Carex utriculata*, and *Carex aquatilis*.

Global Vegetation: This association is characterized by a dense, tall herbaceous layer (often >90% canopy cover and 1.5-2 m tall) that is dominated by *Phalaris arundinacea*, which tends to occur in monocultures. Associated species such as *Equisetum arvense, Muhlenbergia asperifolia, Mentha arvensis, Schoenoplectus acutus (= Scirpus acutus), Polygonum amphibium, Solidago canadensis, Urtica dioica*, and many other species may be present in trace amounts especially where disturbed. Occasional *Populus tremuloides, Salix exigua, Rubus idaeus*, or *Symphoricarpos albus* may be present in some stands. Introduced species such as *Lepidium latifolium, Cirsium arvense, Sonchus oleraceus, Euphorbia esula, Poa pratensis*, and *Phleum pratense* are common in some disturbed stands.

Global Dynamics: *Phalaris arundinacea* produces abundant herbage and is planted for livestock forage. It is tolerant of moderate grazing by livestock, although heavy grazing will reduce density (Hansen et al. 1995). *Phalaris arundinacea* is a threat to riparian and wetland areas because it spreads rapidly from rhizomes, dominating the sites, and is extremely difficult to remove once established

(Hansen et al. 1995). Fire has been used with limited success to control the spread of *Phalaris arundinacea*, but the high water table where it grows makes it difficult to burn during the growing season (Hansen et al. 1995).

MOST ABUNDANT SPECIES

Florissant Fossil Beds NM

Stratum	Species
Graminoid	*Phalaris arundinacea*

Global

Stratum	Species
Graminoid	*Phalaris arundinacea*

CHARACTERISTIC SPECIES

Florissant Fossil Beds NM

Stratum	Species
Graminoid	*Phalaris arundinacea, Juncus balticus*
Forb	*Cirsium scariosum*

Global

Stratum	Species
Graminoid	*Phalaris arundinacea*

OTHER NOTEWORTHY SPECIES

Florissant Fossil Beds NM

Global

Stratum	Species

GLOBAL SIMILAR ASSOCIATIONS:
- *Calamagrostis canadensis - Phalaris arundinacea* Herbaceous Vegetation (CEGL005174)
- *Phalaris arundinacea* Eastern Herbaceous Vegetation (CEGL006044)

SYNONYMY:
- DRISCOLL FORMATION CODE:V.A.4.a. (Driscoll et al. 1984)
- *Phalaris arundinacea* (Bourgeron and Engelking 1994)
- *Phalaris arundinacea* Habitat Type (Hansen et al. 1995)
- *Phalaris arundinacea* Habitat Type (Hall and Hansen 1997)
- *Phalaris arundinacea* Association (Crawford 2001)
- *Phalaris arundinacea* Monotype (Muldavin et al. 2000a)

GLOBAL STATUS AND CLASSIFICATION COMMENTS

Global Conservation Status Rank: G5.

Global Classification Comments: Other natural associations included in this alliance are found throughout the northeastern United States, but this western association's distribution as a natural type is not clear because of extensive planting as a forage crop (Hansen et al. 1995, Hall and Hansen 1997). Further work is required to resolve the natural versus introduced nature of this type in western North America.

ELEMENT DISTRIBUTION

Florissant Fossil Beds NM Range: *Phalaris arundinacea* Western Herbaceous Vegetation is best represented in linear stands occupying Boulder and Grape creeks. These creeks are controlled by a series of dams constructed for historic livestock watering ponds.

Global Range: This association is reported from throughout Washington, Colorado, Nebraska, Montana and Idaho and into northeastern Utah and is likely more widespread in the western United States. Its distribution as a natural type is complicated because this native species is widely cultivated as a forage crop and has escaped and established in many wetlands and riparian areas.

Nations: US
States/Provinces: CO ID MT NE NM UT WA

ELEMENT SOURCES

Florissant Fossil Beds NM Inventory Notes: Plots 8, 46
Classification Confidence: 1 **Identifier:** CEGL001474
REFERENCES: Bourgeron and Engelking 1994, Cooper et al. 1995, Crawford 2001, Driscoll et al. 1984, Hall and Hansen 1997, Hansen et al. 1995, Kittel et al. 1999, Muldavin et al. 2000a, Von Loh 2000